

SEQUENCE LISTING

<110> Stamatatos, Leondias

<120> HIV-1 VACCINES AND SCREENING METHODS THEREFOR

<130> 2570-1-002N

<150> 60/214,608

<151> 2000-06-27

<160> 4

<170> PatentIn version 3.1

<210> 1

<211> 1941

<212> DNA

<213> Human immunodeficiency virus type 1

<400> 1

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caagaaatag tattggaaaa tgtgacagaa aattttaaca tgtggaaaaa taacatggta      300
gaacagatgc atgaggatat aatcagttta tgggatcaaa gtctaaagcc atgtgtaaag      360
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gcacaatttg ggaataaaac aatagtcttt aagcaatcct caggagggga cccagaaatt     1020
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<210> 2
<211> 646
<212> PRT
<213> Human immunodeficiency virus type 1

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<400> 2

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Leu Trp Val Thr Val Tyr Tyr Gly Val Pro Val Trp Lys Glu Ala Thr
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Thr Thr Leu Phe Cys Ala Ser Asp Ala Lys Ala Tyr Asp Thr Glu Val
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His Asn Val Trp Ala Thr His Ala Cys Val Pro Thr Asp Pro Asn Pro
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Gln Glu Ile Val Leu Glu Asn Val Thr Glu Asn Phe Asn Met Trp Lys
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Asn Asn Met Val Glu Gln Met His Glu Asp Ile Ile Ser Leu Trp Asp
100 105 110

Gln Ser Leu Lys Pro Cys Val Lys Leu Thr Pro Leu Cys Val Thr Leu
115 120 125

His Cys Thr Asn Leu Lys Asn Ala Thr Asn Thr Lys Ser Ser Asn Trp
130 135 140

Lys Glu Met Asp Arg Gly Glu Ile Lys Asn Cys Ser Phe Lys Val Gly
145 150 155 160

Ala Gly Lys Leu Ile Asn Cys Asn Thr Ser Val Ile Thr Gln Ala Cys
165 170 175

Pro Lys Val Ser Phe Glu Pro Ile Pro Ile His Tyr Cys Ala Pro Ala
180 185 190

Gly Phe Ala Ile Leu Lys Cys Asn Asp Lys Lys Phe Asn Gly Ser Gly
195 200 205

Pro Cys Thr Asn Val Ser Thr Val Gln Cys Thr His Gly Ile Arg Pro
210 215 220

Val Val Ser Thr Gln Leu Leu Leu Asn Gly Ser Leu Ala Glu Glu Gly
225 230 235 240

Val Val Ile Arg Ser Glu Asn Phe Thr Asp Asn Ala Lys Thr Ile Ile
245 250 255

Val Gln Leu Lys Glu Ser Val Glu Ile Asn Cys Thr Arg Pro Asn Asn
260 265 270

Asn Thr Arg Lys Ser Ile Thr Ile Gly Pro Gly Arg Ala Phe Tyr Ala
275 280 285

Thr Gly Asp Ile Ile Gly Asp Ile Arg Gln Ala His Cys Asn Ile Ser
290 295 300

Gly Glu Lys Trp Asn Asn Thr Leu Lys Gln Ile Val Thr Lys Leu Gln
305 310 315 320

Ala Gln Phe Gly Asn Lys Thr Ile Val Phe Lys Gln Ser Ser Gly Gly
325 330 335

Asp Pro Glu Ile Val Met His Ser Phe Asn Cys Gly Gly Glu Phe Phe
340 345 350

Tyr Cys Asn Ser Thr Gln Leu Phe Asn Ser Thr Trp Asn Asn Thr Ile
355 360 365

Gly Pro Asn Asn Thr Asn Gly Thr Ile Thr Leu Pro Cys Arg Ile Lys
370 375 380

Gln Ile Ile Asn Arg Trp Gln Glu Val Gly Lys Ala Met Tyr Ala Pro
385 390 395 400

Pro Ile Arg Gly Gln Ile Arg Cys Ser Ser Asn Ile Thr Gly Leu Leu
405 410 415

Leu Thr Arg Asp Gly Gly Lys Glu Ile Ser Asn Thr Thr Glu Ile Phe
420 425 430

Arg Pro Gly Gly Gly Asp Met Arg Asp Asn Trp Arg Ser Glu Leu Tyr
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Lys Tyr Lys Val Val Lys Ile Glu Pro Leu Gly Val Ala Pro Thr Lys
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Ala Lys Arg Arg Val Val Gln Arg Glu Lys Arg Ala Val Thr Leu Gly
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Ala Met Phe Leu Gly Phe Leu Gly Ala Ala Gly Ser Thr Met Gly Ala
485 490 495

Arg Ser Leu Thr Leu Thr Val Gln Ala Arg Gln Leu Leu Ser Gly Ile
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Val Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His
515 520 525

Leu Leu Gln Leu Thr Val Trp Gly Ile Lys Leu Gln Ala Arg Val Leu

530

535

540

Ala Val Glu Arg Tyr Leu Lys Asp Gln Gln Leu Leu Gly Ile Trp Gly
545 550 555 560

Cys Ser Gly Lys Leu Ile Cys Thr Thr Ala Val Pro Trp Asn Ala Ser
565 570 575

Trp Ser Asn Lys Ser Leu Asp Gln Ile Trp Asn Asn Met Thr Trp Met
580 585 590

Glu Trp Glu Arg Glu Ile Asp Asn Tyr Thr Asn Leu Ile Tyr Thr Leu
595 600 605

Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys Asn Glu Gln Glu Leu Leu
610 615 620

Glu Leu Asp Lys Trp Ala Ser Leu Trp Asn Trp Phe Asp Ile Ser Lys
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Trp Leu Trp Tyr Ile Lys
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<210> 3

<211> 1860

<212> DNA

<213> Human immunodeficiency virus type 1

<400> 3

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tgggccacac atgcctgtgt acccacagac cctaaccac aagaaatagt attggaaaat 180

gtgacagaaa attttaacat gtggaaaaat aacatggtag aacagatgca tgaggatata 240

atcagtttat gggatcaaag tctaaagcca tgtgtaaagt taacccact ctgtgttact 300

ctacattgca ctaatttgaa gaatgctact aataccaaga gtagtaattg gaaagagatg 360

gacagaggag aaataaaaaa ttgctctttc aaggctcgag ctggaaaatt gataaattgt 420

aacacctcag tcattacaca ggcctgtcca aaggatcct ttgaaccaat tcccatatcat 480

tattgtgccc cggctgggtt tgcgattcta aagtgtaatg ataagaagtt caatggatca 540

ggaccatgta caaatgtcag cacagtacaa tgtacacatg gaattaggcc agtagtgtca 600

actcaattgc tgttaaattgg cagtctagca gaagaagggg tagtaattag atctgaaaat 660
 ttcacagaca atgctaaaac tataatagta cagctgaagg aatctgtaga aattaattgt 720
 acaagaccta acaataatac aagaaaaagt ataactatag gaccggggag agcattttat 780
 gcaacaggag acataatagg agatataaga caagcacatt gtaacattag tggagaaaaa 840
 tggaataaca ctttaaaaca gatagttaca aaattacaag cacaatttgg gaataaaaca 900
 atagtcttta agcaatcctc aggagggggac ccagaaattg taatgcacag ttttaattgt 960
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<210> 4
 <211> 619
 <212> PRT
 <213> Human immunodeficiency virus type 1

<400> 4

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Tyr Asp Thr Glu Val His Asn Val Trp Ala Thr His Ala Cys Val Pro
35 40 45

Thr Asp Pro Asn Pro Gln Glu Ile Val Leu Glu Asn Val Thr Glu Asn
50 55 60

Phe Asn Met Trp Lys Asn Asn Met Val Glu Gln Met His Glu Asp Ile
65 70 75 80

Ile Ser Leu Trp Asp Gln Ser Leu Lys Pro Cys Val Lys Leu Thr Pro
85 90 95

Leu Cys Val Thr Leu His Cys Thr Asn Leu Lys Asn Ala Thr Asn Thr
100 105 110

Lys Ser Ser Asn Trp Lys Glu Met Asp Arg Gly Glu Ile Lys Asn Cys
115 120 125

Ser Phe Lys Val Gly Ala Gly Lys Leu Ile Asn Cys Asn Thr Ser Val
130 135 140

Ile Thr Gln Ala Cys Pro Lys Val Ser Phe Glu Pro Ile Pro Ile His
145 150 155 160

Tyr Cys Ala Pro Ala Gly Phe Ala Ile Leu Lys Cys Asn Asp Lys Lys
165 170 175

Phe Asn Gly Ser Gly Pro Cys Thr Asn Val Ser Thr Val Gln Cys Thr
180 185 190

His Gly Ile Arg Pro Val Val Ser Thr Gln Leu Leu Leu Asn Gly Ser
195 200 205

Leu Ala Glu Glu Gly Val Val Ile Arg Ser Glu Asn Phe Thr Asp Asn
210 215 220

Ala Lys Thr Ile Ile Val Gln Leu Lys Glu Ser Val Glu Ile Asn Cys
225 230 235 240

Thr Arg Pro Asn Asn Asn Thr Arg Lys Ser Ile Thr Ile Gly Pro Gly
245 250 255

Arg Ala Phe Tyr Ala Thr Gly Asp Ile Ile Gly Asp Ile Arg Gln Ala
260 265 270

His Cys Asn Ile Ser Gly Glu Lys Trp Asn Asn Thr Leu Lys Gln Ile
275 280 285

Val Thr Lys Leu Gln Ala Gln Phe Gly Asn Lys Thr Ile Val Phe Lys
290 295 300

Gln Ser Ser Gly Gly Asp Pro Glu Ile Val Met His Ser Phe Asn Cys
305 310 315 320

Gly Gly Glu Phe Phe Tyr Cys Asn Ser Thr Gln Leu Phe Asn Ser Thr
325 330 335

Trp Asn Asn Thr Ile Gly Pro Asn Asn Thr Asn Gly Thr Ile Thr Leu
340 345 350

Pro Cys Arg Ile Lys Gln Ile Ile Asn Arg Trp Gln Glu Val Gly Lys
355 360 365

Ala Met Tyr Ala Pro Pro Ile Arg Gly Gln Ile Arg Cys Ser Ser Asn
370 375 380

Ile Thr Gly Leu Leu Leu Thr Arg Asp Gly Gly Lys Glu Ile Ser Asn
385 390 395 400

Thr Thr Glu Ile Phe Arg Pro Gly Gly Gly Asp Met Arg Asp Asn Trp
405 410 415

Arg Ser Glu Leu Tyr Lys Tyr Lys Val Val Lys Ile Glu Pro Leu Gly
420 425 430

Val Ala Pro Thr Lys Ala Lys Arg Arg Val Val Gln Arg Glu Lys Arg
435 440 445

Ala Val Thr Leu Gly Ala Met Phe Leu Gly Phe Leu Gly Ala Ala Gly
450 455 460

Ser Thr Met Gly Ala Arg Ser Leu Thr Leu Thr Val Gln Ala Arg Gln
465 470 475 480

Leu Leu Ser Gly Ile Val Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile

485

490

495

Glu Ala Gln Gln His Leu Leu Gln Leu Thr Val Trp Gly Ile Lys Leu
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Gln Ala Arg Val Leu Ala Val Glu Arg Tyr Leu Lys Asp Gln Gln Leu
 515 520 525

Leu Gly Ile Trp Gly Cys Ser Gly Lys Leu Ile Cys Thr Thr Ala Val
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Pro Trp Asn Ala Ser Trp Ser Asn Lys Ser Leu Asp Gln Ile Trp Asn
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Asn Met Thr Trp Met Glu Trp Glu Arg Glu Ile Asp Asn Tyr Thr Asn
 565 570 575

Leu Ile Tyr Thr Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys Asn
 580 585 590

Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu Trp Asn Trp
 595 600 605

Phe Asp Ile Ser Lys Trp Leu Trp Tyr Ile Lys
 610 615